



OXFORD JOURNALS
OXFORD UNIVERSITY PRESS

Mind Association

Pragmatic Realism--The Five Attributes

Author(s): John E. Boodin

Reviewed work(s):

Source: *Mind*, New Series, Vol. 22, No. 88 (Oct., 1913), pp. 509-525

Published by: [Oxford University Press](#) on behalf of the [Mind Association](#)

Stable URL: <http://www.jstor.org/stable/2248621>

Accessed: 19/11/2012 16:27

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at
<http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Oxford University Press and *Mind Association* are collaborating with JSTOR to digitize, preserve and extend access to *Mind*.

<http://www.jstor.org>

IV.—PRAGMATIC REALISM—THE FIVE ATTRIBUTES.¹

BY JOHN E. BOODIN.

THE problem of attributes is somewhat out of fashion since the dominance of modern idealism. It has become a habit to think of reality simply in terms of experience, and reflective experience at that. It seems to me, however, that with our new epistemological tools we are in a position to take up seriously some of the metaphysical problems, applying the pragmatic method. In using the term pragmatic, I do not mean to commit myself to any of the special doctrines which have recently passed under that name. I mean that any reality must be conceived as the differences it makes to our reflective purposes. This holds whether the reality in question be of the thing type or the self type or some other type.

I.

Substance has come to have a distinct scientific meaning in modern times. So far as it is possible to revive the Spinozistic conception of substance, it would now amount to the epistemological postulate of totality, *viz.*, that facts are part of one world in such a way that every fact can, under certain conditions, make a difference to other facts.² What those conditions are, it is for science to investigate. The differences must also be capable of becoming differences to a reflective consciousness under certain conditions, in order to concern us.

These differences are capable of being systematised into certain attributes—*summa genera* of differences not further reducible. My reflexions have led me to believe that there are five such attributes, irreducible to terms of each other, *viz.*, stuff, time, space, consciousness and form. Future

¹ A preliminary statement of this doctrine, under the title of "The Attributes of Reality," appeared in the *Journal of Philosophy, Psychology and Scientific Methods*, in 1907. As the statement is now somewhat antiquated I have used parts of it freely in the present article. A fuller statement will appear soon in a volume entitled *A Realistic Universe*.

² See, *Truth and Reality*, chap. vii., Macmillan, 1911.

investigations will have to determine how far these are ultimate attributes and whether there are others.

It is true that such attributes are abstractions from the total matrix of reality. But to say that they are abstractions does not mean that they are ideal or phenomenal in the sense that they belie reality. Without abstraction we can have no science of reality. These attributes are genuine aspects of reality if we must recognise them as such in the procedure of experience.

The classical discussion of attributes goes back to Spinoza. Spinoza makes causal difference, as well as conceptual, depend upon the possession of a common attribute on the part of the contents. He even goes farther and reduces the causal relation to the conceptual: "If things have nothing in common, it follows that one cannot be apprehended by means of the other and, therefore, cannot be the cause of the other".¹ This evidently is a confusion of causal dependence with logical dependence—a confusion of which later idealism has so often been guilty. With Spinoza this identification easily follows from the ambiguity of his parallel attributes, as we shall see later.

The same reality, according to Spinoza, figures in different attributes. Thus substance must figure as both thought and extension. It must also figure in infinite other ways not included in experience. Thus substance must possess not only all the attributes of which there is evidence, but infinite others. This is the mediæval dogma of the *ens realissimum* of which we still find evidence in the idealist's conception of the infinite variety in which his absolute is supposed to revel.

It is not necessary to point out that Spinoza is inconsistent with his own thesis, that every fact within reality must be conceived with reference to a context, or, as he would put it, must have a common attribute with the rest of reality. He is inconsistent, first, as regards the relation between thought and extension, for extension must be conceived, and so must be capable of making a difference to thought. To be indifferent or parallel to thought would be to be without significance. He is still more inconsistent as regards his infinite attributes. These, by hypothesis, make no difference to thought, and yet are assumed. On the contrary, in so far as we make an *a priori* assumption, we must start with a finite number of attributes. Else knowledge becomes impossible. As a matter of fact, we have a right to assume only as many attributes as make a difference to judging or reflective experience. The question whether these are

¹ Spinoza, *Ethics*, Part I., Prop. iii.

altered by being known can have no meaning, since it is only for reflective experience that attributes have significance. We must assume that the attributes are what they are consistently known as in progressive human conduct.

It is unnecessary to point out that extension, with the geometrical qualities it implies in Spinoza, cannot be made an independent attribute apart from the energetic context in which a thing figures, including our perceptual organic context. Extension is as much a quality as is colour or tone. To be sure the quality of extension may be said to exist in contexts independent of experience. But extension, to be known at any rate, must figure in the context of our perceptual consciousness. And if so it cannot be parallel to experience in Spinoza's sense of forming an exclusive and complete world of its own.

Spinoza himself was far from consistent in the relative emphasis he put upon the two attributes. When he dealt with the problem of knowledge, he was inclined to regard mind as the mere consciousness of the actions of the body—*idea corporis*. He at least came dangerously near being a materialistic realist. As he puts it: "The object of the idea constituting the human mind is the body, and the body as it actually exists".¹ And again: "The human mind is the very idea or knowledge of the human body".² No wonder then that the order and connexion of ideas is the same as the order and connexion of things,"³ or as he puts it elsewhere "as the order and connexion of causes".⁴ It follows, also, that his theory of association must be strictly physiological: "Memory is simply a certain association of ideas involving the nature of things outside the human body, which association arises in the mind according to the order and association of the modifications of the human body".⁵ This materialistic tendency is seen also in his physiological theory of emotions: "Whatsoever increases or diminishes, helps or hinders the power of activity in our body, the idea thereof increases or diminishes, helps or hinders the power of thought in our mind".⁶ It follows, on this view, that our knowing the object does not in any wise alter the object, though our ideas may be inadequate, fragmentary or confused. Such privation of knowledge is falsity. Knowledge, when clear and distinct, takes account of the object as it really is in its own eternal system of relations which Spinoza calls God. Materialistic realists of to-day have repeated both

¹ Part II., Prop. xiii.

³ Part II., Prop. vii.

⁵ Part II., Prop. xviii., note.

² Part II., Prop. xix.

⁴ Part II., Prop. xix.

⁶ Part III., Prop. xi.

the theory and inconsistency of Spinoza, for while holding that mind is just the awareness of the body, he finds it hard to rule out mental facts as such with their own unique relations.

What blinded Spinoza to his epistemological materialism was doubtless his play on words. Thus he argues, as we have seen, that mind is the consciousness of the body. But he argues further that "this idea of the mind is united to the mind in the same way as the mind is united to the body".¹ He thus, after telling us that "the object of our mind is the body as it exists, and nothing else," substantialises this idea of the body as having a "distinctive quality"² of its own. This process can then be repeated on the idea of the idea, etc., *ad infinitum*. But the fact is that there is no new content provided for in this repetition. It is purely a trick of language. We remain, where we started, with mind as the consciousness of the bodily modifications. That we know that we know, in any case, only signifies that the attitude of knowing brings its characteristic feeling of belief with it, in so far as it is successful.

When Spinoza, on the other hand, turns to the problem of conduct, he becomes as idealistic as he is materialistic in his epistemology. He attributes all agency to systematic thought and the passive becomes synonymous with the confused and unreal. For in the case of ethical conduct, cause no longer means physiological processes, but clear and distinct ideas. Our mind is active "in so far as it has adequate ideas".³ "The passive states of the mind depend solely on inadequate ideas."⁴ And man can be said "to act in obedience to virtue" only "in so far as he is determined for the action because he understands". Finally, the mind's highest knowledge and highest virtue is to know God. And to know God is to love God and to love him with "that very love whereby God loves himself",⁵ "wherein our salvation or blessedness or freedom consists." Thus Spinoza halts between divided motives. Spinoza's logic at any rate leaves us only one attribute—one complete system whether of matter or thought.

Modern science, in so far as it has been allowed to pursue its own task, unhampered by metaphysical suppositions, whether of the materialistic or idealistic sort, has always insisted upon as many attributes or independent variables as the facts seem to require. These seem to be three for

¹ Part II., Prop. xxi.

² Part II., Prop. xxi., note.

³ Part III., Prop. i.

⁴ Part III., Prop. iii.

⁵ Part V., Prop. xxxvi.

natural science: space, time and energy. The conception of energy has gradually supplanted the conception of mass as a universal ideal of description. Mass¹ is applicable only within a limited field. It is not applicable, for example, to electricity; while energy with its equivalences of transformation can be made to cover the whole extent of process, material and immaterial; physical and psychological.

In spite of the fact that natural science has found it necessary to work with these three attributes, it has failed to define them in any clear way. The desire for simplification has always made itself felt. Thus space and time have always been regarded as pure quantity. But if space and time are pure quantity, how can they be given distinct meaning? We must look for the differentia of these attributes, as they are in fact implied in our attitudes to the world of processes with which science deals. Not the serial tools which they have in common, but their specific character, is what we must try to make clear. Certainly, as pure quantity, time and space are indistinguishable from each other and from quantity in general. While it is convenient to reduce time and space to pure quantity for certain artificial purposes of prediction, this should not blind us to their true character in the world which we intend thus to simplify.

Not only has the attempt been made to reduce time and space to pure quantity, but the same attempt has been made in regard to mass. Thus Karl Pearson would reduce mass to acceleration. But if mass and energy are pure quantity how can we get the different units with which quantity must deal? Quantity, obviously, means something different, whether it is concerned with chemical elements or electric potentials or neural reactions. But this only shows the confusion that has been too prevalent in the analysis of scientific concepts.

Moreover, while natural science, in its task of simplifying and anticipating the world of perception, has been forced to emphasise the above attributes, there are other attributes which, though neglected, are nevertheless implied in the whole procedure of natural science. Thus the attribute of consciousness—the condition of the unique relation to mind of being experienced or interesting, in short the awareness of a world, with its complexity—has been neglected by the natural scientist. This is natural inasmuch as this attribute is equally present to the whole field of problems with which

¹ I am using mass here in the sense of gravitational mass, not in the sense of inertia.

he deals, and, therefore, for his specific purpose can be neglected. He has set himself the task of dealing with a specific part of experience, not with experience as such.

Again natural science assumes that its facts can be formulated into a system, *i.e.* that they can be explained in terms of a finite number of simple principles. This obviously is not deducible from the attributes of space, time and energy. On the contrary, it is a formal presupposition or ideal which is implied in all our cognitive endeavour. It holds at any rate in the part of the universe which is moulded by our will; and if science is to be possible this presupposition must hold in the universe at large.

II.

It must be obvious, from this survey of the results of the past, what our problem is. And while the inquiry did not start from the assumptions of science, it must be a matter of more than curious coincidence that the metaphysical needs and the scientific needs point in the same direction, even though the former set a much more comprehensive and articulate programme. Applying the pragmatic criterion, that we must assume only such realities as can make a real difference to our reflective procedure, we must try to make clear what are the ultimate types of differences which reality makes to our reflective conduct, or, expressed in subjective terms, what ways of taking or evaluating our world prove finally effective in our understanding and appreciation of it. Such types of conduct we will call by the classic name of attributes. I will now try, in brief, to define these attributes—the *summa genera* in the reflective evaluation of the character of our world.

“ BEING.”

First a word about the attribute of “being,” as it has been called since Parmenides. By “being” we mean the stuff character of reality. This stuff is capable of making definite differences under stateable conditions. This dynamic continuity of stuff, with its equivalences, we call energy. The stuff that has been emphasised by modern idealism is meaning stuff—our reflective purposes. These constitute one type of stuff, and must be taken account of as of final importance for our appreciating and understanding the world. They enable us to differentiate the processes and spread them out in series. Similarity, difference, causality, reciprocity, etc., as general categories or modes of functioning on the part of

the reflective ego, must be part of this account of stuff. This reflective stuff is partly content stuff, partly tendency stuff, which makes the particular content significant.

I want to point out, however, that in order to make a difference to experience, reality need not necessarily be reflective. On the contrary, reflective experience will be seen to be dependent to a large extent upon non-reflective processes. The meaning of the object reflected upon depends largely upon its unnoticed background. There are three ways in which attention may be dependent upon unnoticed facts. Thus processes, not attended to, make up the larger associative context, the background of feeling and tendency, of the object. The different meaning of man or evolution to the scientist and to the common man is largely in the "fringe". Or the unnoticed may be instrumental to the activity of attention without itself being attended to. For example, the words on the page that we read. We have a different consciousness when we are attending to the meaning of the words from what we have when we make the words themselves the object. There may be processes, however, which are entirely irrelevant to the purposive consciousness of the moment, as well as unnoticed by it. Thus the pressure of our clothes, the furniture of the room, the temperature, etc., even though not attended to, make a difference to our consciousness which we can easily see by an alteration of these processes. We have a very different consciousness in reading a book out of doors under the open sky from what we have in reading the same book in our own study, though in either case we may not be attending to the setting. If we want one name for all these various unnoticed mental processes I would suggest *subattentive*,¹ instead of *subconscious*, which at best is misleading.

Not only are there mental processes beyond the circle of reflective thought and making a difference to it; there are processes which we cannot speak of as conscious experience at all, which still make a difference to our reflective meaning. That I can take up to-day the problems of yesterday or last year and thus connect again with my own past, seems to be dependent upon a continuity of processes which are not themselves conscious. The unity of the passing thought can account for the continuity of our consciousness only while we are conscious. It cannot bridge over the gap between going to sleep and waking up again, or account for

¹ This term was suggested in the article in the *Jour. Phil. Psych., and Sci. Meth.*, 1907. It has later been advocated by Dr. Marshall in the same journal, but the term *subconscious* seems to have come to stay.

the bringing back of experiences which have not been active in the meantime. What these non-conscious processes are in their own character must be determined by science according to its convenience. It must simplify them and differentiate them according to our needs in meeting the complexity of our world. Mere *a priori* classification can count for nothing.

One thing is certain, and that is the close relation between what we call physical energy and our mental activities. It is a commonplace that a cup of hot coffee may change our emotional attitude towards the world. But I suppose we would not on that account be guilty of speaking of coffee as emotion stuff. Psychotherapy, again, has made us familiar with the differences that mental processes can make to the physiological. We have gotten over the notion that one process in order to make a difference to another must be of the same kind. Chemical energy is not the same as electrical, though capable of making a difference to it. So different are the conceptual tools which we need in each case that electrical energy is sometimes spoken of as immaterial. This, I take it, only signifies that the conception of mass is inapplicable. The difficulty of finding a common denominator between psychic processes and physiological seems still greater, yet they are clearly interdependent. All we can hope to do in science, and science must here be our last word, is to show definitely the conditions under which the transformations take place. The how of the process, the following of the minute internal transitions, may for ever lie beyond us.

Looking at the stuff character with reference to the implications of the reflective moment, we have found it convenient to look at it as of three levels. These levels can be seen in a cross section, as it were, of every reflective moment, the reflective consciousness showing its dependence upon marginal or unnoticed experience and this again upon processes to which the category of experience cannot be ascribed, and which, for want of a better term, we speak of as physical.

Stuff has the advantage that it can be observed directly. It is an object of immediate perception and judgment. The other attributes of which we shall speak, *viz.*, space, time, consciousness and form can only be observed or make a difference to our judgment through the difference they make to the stuff structure of the world, including our own purposes.

I shall speak of these attributes as non-being attributes, not because they are less real, but because they are not stateable as stuff. In the language of philosophy the stuff

character has appropriated the term "being". These non-being attributes can be defined or differentiated from each other by the difference which they make to the active purposes of the self.

TIME.

It has been customary since Kant to deal with the time and space attributes as series and therefore to insist upon their ideal character. I have insisted, on the other hand, that the serial character is relative, and that the real differentia of these concepts must be found in characters of reality which are not themselves serial, but furnish the rationale of the serial construction. If you speak of time and space, for example, as pure quantity, there remains, as we have already pointed out, the problem of stating the relation of time and space to the general concept of quantity, on the one hand, and to show their differentia with reference to each other, on the other hand; that is, the whole problem of definition remains. In what, in other words, lies the difference in our purposive attitude in evaluating space and time?

To speak first of time. What difference does time make to the realisation of our purposes? Energy, we have seen, stands for constancy of process—for stable types of prediction. And there is a degree of constancy of stuff or we could not have science. But, on the other hand, it is a characteristic of our concrete world that it does not stay as it is. We must recognise fleetingness—growth and decay in much of reality. Constancy, in our practical experience, seems at best relative. Hence we must recognise the attribute of time. It is precisely because the universe is in perpetual flux, that the task of science—the singling out of certain leading identities which enable us to find our way amidst the ever novel and different—becomes so significant. In the frozen block-world of Parmenides we should have no need of science. The constancy aspect is limited by the flux aspect. And while we must recognise the former as real, it seems but meagre in extent beside the flowing world of protean detail.

While, again, it is convenient, for certain abstract purposes of description, to reduce time to quantity, this must not blind us to the nature of the processes which we intend and from whose essential character we have abstracted for the partial purpose. I insist that what we mean by the differences time makes to our purposes is not stateable as mere *units* of chronology—the intervals of the clock. There must be flow,

movement, or we would not go to the trouble of inventing units. This movement, even in the measurement of time, ever belies our static definitions.¹ Suppose that nothing really happened—no running down of energy, no being born or growing old, no change in values. In such a world we should indeed declare time to be no more, to make no real difference. Or rather we should have no concept of time at all. What makes time real to us is that it necessitates new judgments, whether because of transformation and novelty in the purposive meaning which evaluates or in the object which is evaluated. So long as this is the case we cannot express reality in merely static categories. Our quantitative devices are instruments to adjust ourselves to this concrete flow.

It matters not, for this purpose, how you ultimately conceive the stuff of the world. You may conceive the process as the rearrangement of physical entities. Even then you must have something besides the bits and their position to account for the process of the perceptual world. I do not see, myself, how the bits can be indifferent to the rearrangement they must suffer, except as they are recognised as merely our conceptual models. But whether you conceive the stuff of reality in the last analysis as atoms and electrons or as purposive systems of meanings, the question remains: When you have thus conceived reality, why should it slip away? Why does it not remain chained in the present, as Parmenides would say? Why should there be rearrangement, whether a running up or a running down process? As the world has no beginning, neither process can be absolute, for then the world must have run its course countless ages ago. The theory that the world tends to an equilibrium or an equal distribution of heat, as implied in Spencer's formula and the second law of thermodynamics, presupposes a finite creation of the world.

If you say, again, that the present rearrangement is the result of previous rearrangement, and so on *ad infinitum*, why should there be rearrangement at all? Why should not our positional values remain fixed? Why should something creep into our equations, whether subjectively or objectively, so as to make them false? If you insist that reality remains fixed, there at least remains the appearance of rearrangement in the subject, and that is part of reality and must be met.

Given, on the other hand, time, as a real character of the world, you can account for the transformation of values, the

¹ See "Time and Reality," *Psych. Rev. Mon. Series*, Macmillan, 1904, pp. 23 and 24.

instability of positions or the falsifying of our judgments, which is what it all amounts to in the end. You can also furnish the rationale for our serial construction to meet such a character of the world, while you cannot derive the time character from the concept of series. The construction of time-infinities is a secondary affair, and can neither explain nor invalidate the real time character. We should not say that things move in time. This is putting the cart before the horse. Our serial construction is made necessary, on the other hand, because of the transformation of our facts and values. Time furnishes the limiting value of certain serial constructions, such as past and future without which they would be meaningless.

It is inverting the real situation to speak of contents as carried over from one moment to another or as passing in and out of time. What really takes place is that some contents remain constant, others come and go. Our psychological moments chase each other and fade like the shadows on the mountains on a cloudy day, yet withal some constancy of outline—of tendency and content—remains by means of which we can realise their fading and fleeting existence. The more permanent contents furnish the background upon which the fleeting ones appear and disappear. Some of the latter observe a certain rhythm. In the case of the earth clock, and our artificial time-pieces based upon it, we have socialised this rhythm, relative though this is in the end to the process. Then we use this rhythm to measure the enduring contents, with their passing or accumulating increments. Having invented intervals we can divide these at will, even to infinity. We then invert the process and imagine that the contents run through our artificial divisions. The latter, however, have no effect on the real overlapping or change. They are an after-thought.

SPACE.

And now a word about space. If time makes the difference of transformation to our concrete realities, space conditions translation. If time makes an intrinsic difference to our processes, space makes an external difference. The character of space, in other words, is such that it does not interfere with movement. If space offered resistance, geometry, which is based on *free mobility*, would be impossible. It matters not for our purposes whether space be actually empty or not. It is convenient, for scientific and practical purposes, to posit space as a limit of exhaustion and as the absence of resistance,

i.e., to assume a space zero. Only thus can we state Newton's first law of motion. Moreover, if we can approximate to such a limit, it must be as objectively real as though we had actually attained it.

We cannot rule out space by mere *a priori* considerations. Thought must follow the facts and not dictate to them. Whatever we must acknowledge as real cannot fail to be conceivable. And pure space seems to be more than a conceptual limit. Interstellar space seems to be practically pure. The rays of light are, so far as we know, not interfered with in any way until they strike solid bodies. Michelsen's careful measurements indicate that the earth rotates as though it moved in empty space. What is true in the large may be equally true in the minute. Thus the compressibility of the atom as indicated by the experiments of T. W. Richards seems to point to space intervals in the elementary structure of the universe. Whether such observations as regards the existence of pure space prove final or not, this does not invalidate the reality of space as the condition of the energetic interactions in space.

A more positive characteristic of space than that of free mobility is that of *distance* or externality of energetic centres. As distance, space conditions the equations of the astronomer and the realisation of our human social purposes. For even though our purposes do not occupy space, they nevertheless operate in space and space makes a difference to their realisation. If from Kansas I wish to communicate with a friend across the sea, it makes a definite difference as regards the kind of communication and the sort of relations that are possible between us, that he is some thousands of miles away.

Spatial distance does not of course prevent energetic overlapping of centres. In the case of my friend it is true that my purpose to communicate may become continuous with certain physiological processes, and these in turn may become continuous with certain physical energies which in turn span the distance between me and my friend. But the overlapping is different and the realisation of the social purpose is different because of the distance. No mystical monism can remedy this difference. No mere intellectual change of point of view can alter the practical situation in which space figures as one condition.

We must, of course, be careful not to confuse the real space condition with our psychological or logical perspectives with their ideal distinctness or externality of parts. *Things* cannot move in an *ideal* system. Serial space is a construction—an after-picture to symbolise the relations of

things, whether physical masses or geometrical figures or self-conscious individuals, in zero space. If space were merely an ideal system, distance and free mobility would both be figurative without any reality for the figure. If we admit a real zero space, we can easily account for phenomenal or serial space, but not *vice versa*.

I grant cheerfully that all our quantitative measurements are relative. Our serial constructions, our geometrical as our chronological models, are our tools by means of which we strive to meet the actual nature of the world. But I do not see how any mere contradictions in our concepts can rid us of characters of reality which condition all our real purposes, whether as regards transformation or translation.

CONSCIOUSNESS.

It is convenient to treat consciousness, in the sense of awareness or interest, as a unique attribute. It is absurd to suppose that our conative attitudes and organised meanings become atoms and molecules when we are not aware of them; they change, not in stuff but in value when they are illumined for an instant by interest. Consciousness is a new character added to our conative purposes under certain conditions of intensity and readjustment. The conative purposes themselves may remain as constant as individual existence. They may even become permanent parts of social history.

Consciousness or awareness is a neutral light. It does not create distance nor does it create meaning. It may be an awareness of meaning or an awareness of sensation. In our developed experience it is both. It gives subjective and unique value to facts and their relations. To make such awareness possible, there must pre-exist, as conditions, on the one hand, the object-context of which we become aware, and on the other hand, the system of conative tendency which forms the subjective condition of awareness. But neither the object-context nor the system of tendency is as such awareness. When interest is lighted, under its peculiar conditions, a new relationship to the organism originates which cannot be reduced into other existential relations such as temporal, spatial, - causal, nor into logical or æsthetic relations, though these now come to have subjective value.

Consciousness thus conditions the relation of being felt. It converts what otherwise would be a type of mere interaction into realisation. What is realised may be an external meaning—a proposition in Euclid. It may be an electrical shock. It may be a relation such as distance. What is

realised need not be experience stuff. It includes not merely experience transition, but space transition. It may be any kind of energy or relation. On the other hand, a meaning may be as objective or external to consciousness as space. We do not make Homer's meaning or the Sistine Madonna, when we become conscious of it, any more than we make the distance from the earth to the moon when we take account of it. Consciousness in any case is a gift which for its condition presupposes on the one hand conative tendency, on the other hand the shock of a stimulus—a situation to be met whether intra- or extra-organic. A mere continuity or succession of objects is not a consciousness of a continuity or succession. Awakened tendency, or interest, is also required. And then the content may come in temporally discrete pulses of experience.

Thus in being conscious there are always end-terms ; and one of the end-terms must be a conative system of tendencies. The terms need not be a logical subject and object, though the exchangeable character of the end-terms in this case does not prevent them from being, in the particular situation, real end-terms, whichever term the conative interest may be momentarily identified with. The end-terms may even be blind instinct on the one hand, and any fascinating stimulus on the other. But one of the end-terms is always conative in character. Consciousness is always *interest*.

Consciousness has been confused on the one hand with its conditions, on the other with its species. It has, in the first case, been regarded, as by the materialist, as a product or effect of chemico-biological causes. But the materialist himself has admitted that it is not comparable with what is ordinarily meant by effect. It is rather an epiphenomenon—a miracle added to the process, without making any causal difference to it. On the other hand, we may with the idealist regard this awareness as everywhere and always present and indissociable from the contents of reality. But here we are dealing with an assumption which seems to run counter to the facts as known in our finite experience. I prefer a third alternative, which indeed is implied in the bankruptcy of the other two, in accounting for our experience. This is that consciousness is an attribute added to our energetic relation of conative tendency and stimulus under certain conditions—a unique gift of reality in its larger sense to some of the interactions of our finite ego. Since obeying regular laws it is no miracle ; since an aspect of all our waking experience, it is no more mysterious than other unique types of reality such as space. Whether it is an abstract attribute of the

universe or is ever-present as an aspect of a comprehensive absolute experience does not matter for the problem in question. In either case, what is a gift to our finite experience pre-exists as a character of a larger reality. This character of awareness spans the whole field of interest from the immediate interest of instinctive attention, where we have the "mere awareness of," to that of the most elaborate apperception or "knowledge about".

In the second place, consciousness has been confused with the species of its content. It has sometimes been treated as though it meant exclusively logical awareness, to the ruling out of non-logical types. Again it has been treated as though it signifies simply motor awareness, as opposed to ideational. But the stating of such definitions is a sufficient refutation of them. The awareness itself is quite colourless. It is the psychological processes which colour it; and here there is no reason why one process should be given the pre-eminence over the rest.

FORM.

I anticipate the most difficulty from the fifth attribute of which I am going to speak, *viz.*, form or direction. We have tried so far to state the universe in terms of four attributes, those of stuff or energy, time, space and consciousness. But none of these attributes answer the question: Does the process have direction, or is there validity in the flux? This is not accounted for by stuff, for the stuff character does not contain its own measure. It is precisely because we recognise that the process is not what it ought to be, because our finite structures seem relative, that the question of validity is raised. The question is not answerable in terms of time, for time merely means transformation. Whether transformation towards chaos or towards unity is not answered by time. It is not stateable as space, for while space conditions the realisation of meaning, it does not make it valid. You cannot reduce the demand for form to mere mechanical sequence, whether psychical or physical, conscious or unconscious. There remains somehow within us the longing for finality, in spite of, yea because of, the fragmentariness of our finite meaning. The merely relative fails to satisfy us.

Valid relations are a distinct type or genus from consciousness with the motley array of existences which it reveals. In the first place, our awareness may be bound up with error and illusion. That it largely is so in our experience is attested by the whole story of science. In the second

place, valid relations may exist without our being conscious of them. We do not originate Euclidian geometry by becoming aware of its logical relations. While valid relations presuppose mind and also awareness at some time, we do not have to be awake all the time to keep the argument valid. And the long buried past, when once brought to consciousness sometimes is found to be more valid than our present cogitations.

Validity implies a constitution, different from the sequential or causal, in the light of which we criticise that which happens and strive to establish clearness and distinctness in the midst of the seemingly confused relations of experience. This idealisation of life, this attempt to establish the ought in what is, must be taken as a unique type of evaluation. When we insist that there ought to be truth, beauty and goodness, in spite of the relativity of history and our individual judgments, we have at least implied a limit, a direction of history which is not relative. Else all our judgments would be equally meaningless, and there could be no degrees of worth, as in the dark all cows are grey.

The absolute idealist insists that in the absolute experience we have such a standard. This absolute experience is even now shared by us. It is this that gives rise to our consciousness of fragmentariness, which accounts for our finite sense of failure, and of which we are even now conscious as the final truth, the purpose eternally fulfilled. But the irony of history gives the lie to any such assumption. The absolute itself, as our concept, is subject to the transmutation of time. It is the expression of the finite now. Each stage of the process must create its own absolute, find its own satisfaction. The absolute, therefore, is for us at any rate merely a logical ideal. Epistemologically, it is relative. The concept of it, too, presupposes direction for such validity as it has.

That the idea of direction is valuable as a regulative idea or limit, cannot be doubted. But can we also attribute ontological reality to the same? Or is it merely a hypothetical limit, the index of our ideal strivings? It seems to me, if it is required to give meaning to our relative and fragmentary purposes, that it must be at least as real as those purposes themselves. The straight line must be at least as real as the numberless variations of curvature of which it is the limit. And it is worth more, for without it there could be no such thing as measure. And so with our more general ideal demands, as contrasted with the world of existential processes.

To guarantee the validity of process or to furnish the basis for science, virtue and beauty, the form must be selective, that is, must somehow condition the survival of structures. Only thus can it satisfy that demand for finality which the finite process at any one time fails to fulfil. This does not mean that every item is predetermined by a final cause or Idea. It need only mean that, in the changes and chances of the cosmic process, in the fluctuations and mutations of life, certain ideals of clearness and distinctness are enforced by the universe, however much beyond our comprehension such operation may be. This would accomplish in the large what our selective will as a fragment and evolution of the universe strives to accomplish in the small.

That formal selection may condition survival we know from experience. Evaluation in terms of ideals is an important condition in social survival. Human beings are socially approved, not so much for their size, weight or strength, as for their satisfying certain ethical, æsthetic and intellectual standards. They may, for example, be selected for their beauty rather than their strength and thus continue the race. This holds to a certain extent in animal selection as well. And in the survival of plant life and even of certain conditions of inorganic nature—the configurations of hills and valleys within our human control—form often plays the most important part in our selection. If the universe is interpenetrated and controlled in the last analysis by a master mind—the fulfilment of our ideal demands—formal value, rather than quantity of energy, may be the final basis of survival and eternity.

These attributes, while they are ultimate or irreducible kinds, differ from the parallelistic attributes of Spinoza in that they all make a difference to our creative purposes, whether they make any differences to each other or not. Hence they do not involve an epistemological contradiction. They at least overlap *as known*. They also overlap in other ways. Space makes a definite difference to interacting energies in space. Time again conditions the existence of process at all, instead of the petrified world we otherwise should have. Consciousness makes subjective realisation of a world possible, while form makes it possible to understand and appreciate such a world.